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Der Pharmacia Lettre, 2014, 6 (6):434-438
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Flavonoids from the stem bark of *Bauhinia semibifida* L.

Mulyadi Tanjung and Tjitjik Sri Tjahjandarie

Natural Products Chemistry Research Group, Organic Chemistry Division, Department of Chemistry, Faculty of Science and Technology, Airlangga University, Surabaya, Indonesia

ABSTRACT

Two flavonoids, 6C-7O-dimethylaromadendrin (**1**), and phlorizin (**2**) have been isolated from the stem bark of *Bauhinia semibifida*. The structures of both compounds have been elucidated based on UV, IR, HRESIMS, 1D and 2D NMR data. Compounds **1–2** were evaluated for their cytotoxic properties against P-388 cells, their IC_{50} values 3.98, and 25.20 $\mu\text{g/mL}$, respectively.

Keywords: Flavonoid, 6C-7O-dimethylaromadendrin, phlorizin, *Bauhinia semibifida*, Cytotoxic.

INTRODUCTION

Bauhinia is a large genus of Fabaceae family consisting of about 300 species and distributed in the tropical and subtropical region. The phytochemical studies of *Bauhinia* has known that this plants producing flavonoids [1,2], and stilbenoids [3,4,5]. This study is part of our research on the chemical constituents of *Bauhinia* species found in the Indonesia. In continuation of our research for phenolic compound in this medicinal plant, we report the isolation of flavonoids, 6C-7O-dimethylaromadendrin (**1**), and phlorizin (**2**) from the methanol extract of the stem bark of *Bauhinia semibifida*. This species has not been reported about phytochemical data. The cytotoxic activity against murine leukemia P-388 cells of the isolated compounds **1–2** are also briefly described.

MATERIALS AND METHODS

General experimental procedures

NMR spectra were recorded on a JEOL ECA 400 spectrometer in DMSO d_6 at 400 (^1H) and 100 (^{13}C) MHz using TMS as the internal standard. The mass spectra was recorded using a Waters LCT Premier XE. UV and IR spectra were measured with a Shimadzu 1800 and Perkin Elmer Spectrum One FTIR spectrometer, respectively. Vacuum liquid chromatography (VLC) and radial chromatography were carried out using Si gel 60 GF₂₅₄ and Si gel 60 PF₂₅₄, for TLC analysis, pre-coated silica gel plates (Merck Kieselgel 60 GF₂₅₄, 0.25 mm thickness) were used. Solvents used for extraction and preparative chromatography were of technical grade and distilled before use.

Plant material

The stem bark of *B. semibifida* were collected from Bangkirai Hill, Samarinda, East Kalimantan, Indonesia. The species were identified at the Herbarium Bogorienses, Center of Biological Research and Development, National Institute of Science, Bogor, Indonesia and a voucher specimen had been deposited at the Herbarium Bogorienses.